Title (en)

Controller of vehicle internal combustion engine

Title (de)

Steuerung für Verbrennungsmotor von Fahrzeugen

Title (fr)

Commande pour moteur à combustion interne de véhicule

Publication

EP 2177740 A2 20100421 (EN)

Application

EP 09013173 A 20091019

Priority

JP 2008270025 A 20081020

Abstract (en)

A controller (40) of a vehicle internal combustion engine (10) that is automatically stopped and restarted under a prescribed condition related to operation of the vehicle is disclosed. The engine (10) includes an output shaft (11), a starter (20) constantly meshed with the output shaft (11), and a throttle valve (12) regulating the intake air amount supplied to the engine (10). After the engine (10) has been subjected to an automatic stopping procedure, the controller (40) restarts the engine (10) when a restarting condition is met, and the controller (40) uses the starter (20) to restart the engine (10) if the engine speed is in such a predetermined range that autonomous operation of the engine (10) cannot be restored. The controller (40) temporarily opens the throttle valve (12) on the condition that the engine speed at the time when the restarting condition is met is not zero and is in the predetermined range.

IPC 8 full level

F02D 41/06 (2006.01); **F02D 33/02** (2006.01); **F02N 11/00** (2006.01); **F02N 11/08** (2006.01); F02D 11/10 (2006.01); F02D 41/04 (2006.01)

CPC (source: EP)

F02D 41/0002 (2013.01); **F02D 41/065** (2013.01); **F02N 11/003** (2013.01); **F02N 11/0844** (2013.01); F02D 41/042 (2013.01); F02D 41/061 (2013.01); F02D 2011/102 (2013.01); F02N 99/002 (2013.01); F02N 2200/022 (2013.01); Y02T 10/40 (2013.01)

Citation (applicant)

JP 2008215154 A 20080918 - TOYOTA MOTOR CORP

Cited by

FR2985288A1; CN106555724A; CN106894900A; GB2517751A; GB2517751B; US9394872B2; US9228546B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

Designated extension state (EPC)

AL BA RS

DOCDB simple family (publication)

EP 2177740 A2 20100421; **EP 2177740 A3 20120418**; **EP 2177740 B1 20151216**; JP 2010096155 A 20100430; JP 5036682 B2 20120926

DOCDB simple family (application)

EP 09013173 A 20091019; JP 2008270025 A 20081020